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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,958	09/20/2006	Poul Erik Jespersen	PATRADE	8746

7590 06/10/2010
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1493 Chain Bridge Road
Suite 300
McLean, VA 22101

EXAMINER

SCRUGGS, ROBERT J

ART UNIT	PAPER NUMBER
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3723

MAIL DATE	DELIVERY MODE
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06/10/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,958	Applicant(s) JESPERSEN, POUL ERIK	
	Examiner ROBERT SCRUGGS	Art Unit 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment received on March 1, 2010. Claims 1-20 remain pending in the application and have been fully examined.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-9, 10-13, 17 and 18 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Platt (1666347) in view of Rosa (6113472), Heuze (1864823) and optionally in view of Oya (4078905).

In reference to claim 1 and 6, Platt discloses a grinding apparatus for processing a workpiece (the examiner notes that the type of workpiece being used still does not add patentable weight to the claim because the invention is directed to a grinding apparatus not to the workpiece being used therefore as long as the structure of the grinding apparatus, of Platt, meets the structure required by the claims the device could obviously be used on any type of workpiece, which includes one having edges, roundings and burrs. However, the examiner has also included Oya to further show that grinding of different workpieces is known in the art and is discussed in further detail below.) comprising: a support arrangement (4) holding a number of grinding heads (12) each of which include grinding elements (i.e. felt), an endless conveyer means formed

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as drive chain (14) which moves the grinding heads in an annular coarse by at least one driving shaft (20) that is obviously connected to a driving motor (Page 2, Column 1, Lines 1-14), the drive chain being moved in an annular coarse thus the grinding elements move in an epicyclic manner (Figure 1) (Page 2, Column 1, Lines 1-19) and said chain including at least one long side/plane (see figure below) perpendicular to an underlying conveyor (2), but lacks, a grinding motor for each grinding head and specifically disclosing that the driving shaft (20) is driven by a motor. However, Rosa teaches a technique of providing a plurality of grinding heads (4) (Figures 6 and 17) with a motor (82), respectively, that individually rotates said grinding head and wherein said grinding heads are capable of moving vertically up and down with respect to the workpiece (see figure below). It would have been obvious to one of ordinary skill in the art to modify the single drive chain (22), which drives all the driving heads, of Platt, with the known technique of providing multiple grinding motors that individually drive a grinding head, wherein said grinding heads are capable of moving vertically up and down with respect to the workpiece, as taught by Rosa, and the results would have been predictable. In this situation, one could individually maintain constant pressure at different locations thereby removing material from the surface of the workpiece without causing undesired stress. The examiner notes that obviously drive shaft (20) is connected to a motor for rotation otherwise the device would not work properly. Assuming *arguendo*, that a motor is not used than Heuze may be used for teaching that it is old and well known in the art to move a chain (11) (or rope) which holds a plurality of grinding elements (4) by using a motor (Page 2, Column 1, Lines 17-21). It would

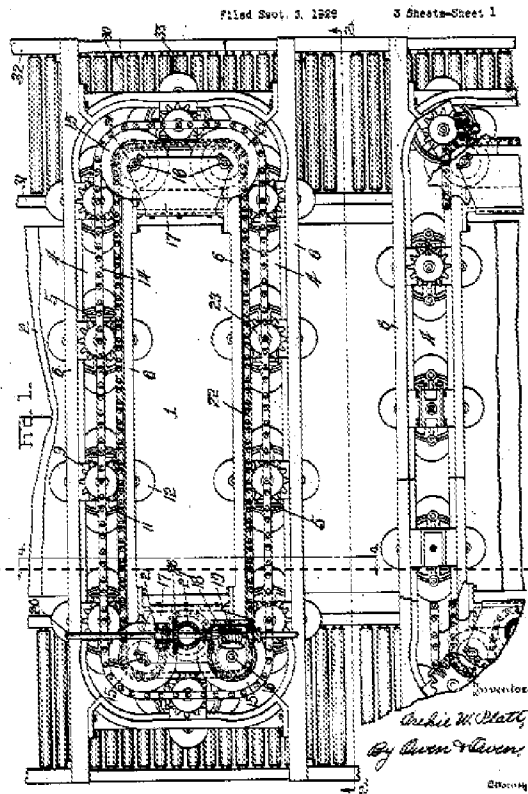
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have been obvious to one of ordinary skill in the art to modify the device, of Platt, with the known technique of using a motor to actuate a chain, as taught by Heuze, and the results would have been predictable. In this situation, one could easily move the grinding elements across the workpiece without using manual force. Finally, Oya teaches that it is old and well known in the art to grind a workpiece (A) having edges, roundings and burrs (see abstract) on a conveyor by using rotating grinding elements (9) (Figure 1). It would have been obvious to one of ordinary skill in the art to modify the workpiece, of Platt, with the known technique of grinding a workpiece having edges, roundings and burrs, as taught by Oya, and the results would have been predictable. In this situation, one could provide a more versatile device that can grind the surfaces of various workpieces in a single machining operation.

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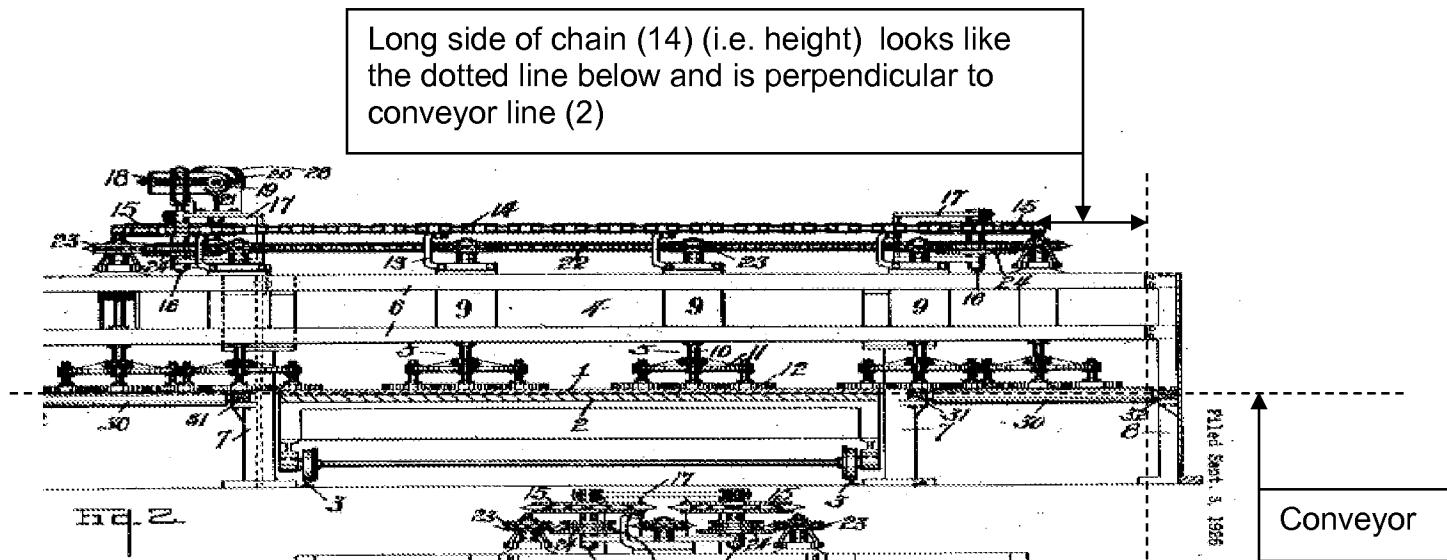
Long side of chain (14)
(i.e. length) looks like
the dotted line to the
right and is
perpendicular to
conveyor (2)

Conveyor



Or the device can be interpreted as below.

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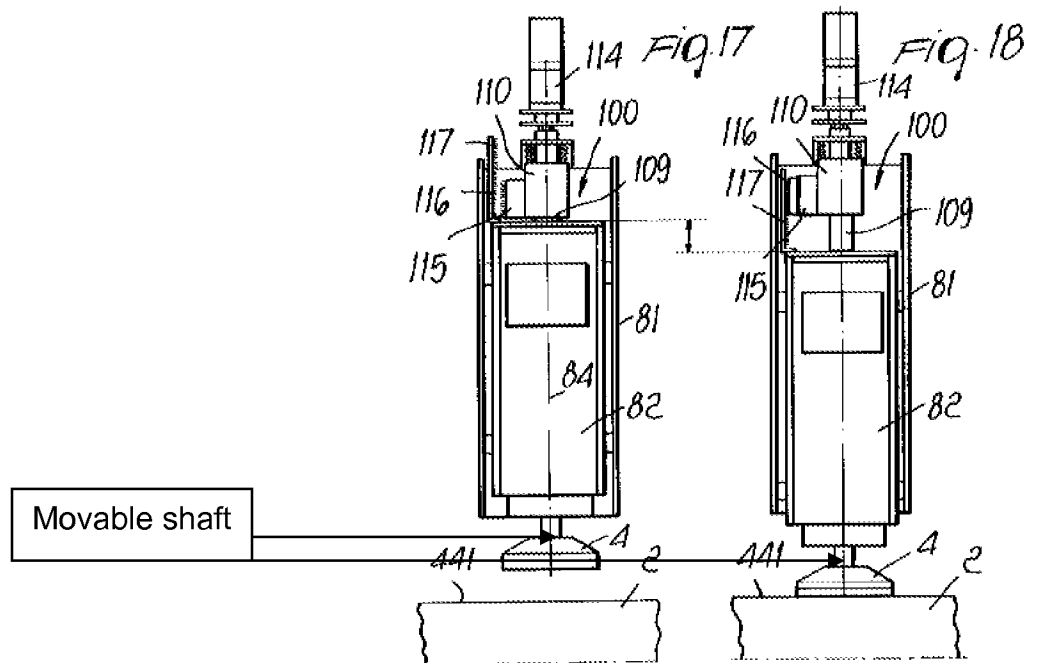


In reference to claims 2 and 10, Platt also discloses using drive chains (14) for engaging drive wheels (15) driven by moving motors (Page 2, Column 1, Lines 1-14) and assuming *arguendo*, that a motor is not used than Heuze may be used for teaching that it is old and well known in the art to move a chain (11) (or rope) which holds a plurality of grinding elements (4) by using a motor (Page 2, Column 1, Lines 17-21) as previously discussed above.

In reference to claims 3, 11 and 18, Rosa also teaches of providing a support arrangement (51) that is adjustable in height by displacing force elements (71) (Column 4, Lines 23-27).

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In reference to claims 4, 12 and 13, Rosa also teaches of providing a movable shaft (see figure below) connected to the grinding motors, such that the grinding elements are movable in a direction perpendicular to the workpiece.



In reference to claim 7, Platt also shows that the conveyor includes a long side perpendicular to the underlying conveyor as previously shown above.

In reference to claims 8 and 9, Platt also discloses that the endless conveyor includes one or more drivers formed as a driving chain (14).

In reference to method claim 17, Platt in view of Rosa disclose providing a support structure, suspending plural grinding heads from the support structure, providing each

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grinding head with a grinding element and an associated grinding motor, driving the grinding element with the grinding motor, coupling an endless conveyor to the support structure in a plane perpendicular to a plane of the support structure, moving the endless conveyor annularly along the support structure with at least one moving motor coupled to the endless conveyor, coupling the plural grinding heads being with the endless conveyor, moving the plural grinding heads transverse of a direction of movement of the work-piece, moving the grinding elements epicyclically across the work-piece during grinding operation, and processing any shape or form of the work-piece as previously discussed above.

4. Claim 5, 14 and 19 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Platt (1666347) in view of Rosa (6113472), Heuze (1864823), Oya (4078905), Knost (2985989) and Price et al. (2901868). Platt discloses the claimed invention previously mentioned above, but lacks, having grinding elements that rotate in opposite directions. However, Knost teaches a technique of rotating multiple grinding elements (26-29) in opposite directions (Figure 3). In addition, Price et al. also teach a technique of rotating a row of grinding elements (20) in an opposite direct from a second row of rotating elements (20) (Figure 2) (Column 2, Lines 27-31). It would have been obvious to one of ordinary skill in the art to modify the grinding elements, of Platt, with the known technique of rotating rows of grinding elements in opposite directions with respect to each other, as taught by Knost and Price et al., and the results would have

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been predictable. In this situation one could more effectively grind a workpiece such that it is provided with a true and level surface finish.

5. Claims 15, 16 and 20 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Platt (1666347) in view of Rosa (6113472), Heuze (1864823), Oya (4078905) and Price et al. (2901868). Platt discloses the claimed invention previously mentioned above, but lacks, having grinding elements that rotate in opposite directions. However, Price et al. also teach a technique of rotating a row of grinding elements (20) in an opposite direct from a second row of rotating elements (20) (Figure 2) (Column 2, Lines 27-31). It would have been obvious to one of ordinary skill in the art to modify the grinding elements, of Platt, with the known technique of rotating rows of grinding elements in opposite directions with respect to each other, as taught by Knost and Price et al., and the results would have been predictable. In this situation one could more effectively grind a workpiece such that it is provided with a true and level surface finish.

Response to Arguments

6. Applicant's arguments filed March 1, 2010 have been fully considered but they are not persuasive.

7. Applicant contends that **“Claim 1 is distinguished from Rosa and Platt at least in that it teaches epicyclic movement of the grinding elements across an item that includes edges, roundings, and burrs.”**

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a. However, the examiner respectfully disagrees with this statement. Platt discloses that the grinding head are rotated in an epicyclic manner (Page 2, Column 1, Lines 1-19) therefore since the structure of the claims have been met the examiner believes the rejection is proper and thus maintained.

8. Applicant contends that **“This construction of the glass polishing apparatus gives the following disadvantages: It is not possible to control the speed of the polishing members (9) in relation to the rotary speed of the polishing blocks (12) which may result in non-uniform polishing of the workpieces (1). Along the guide bars 6 the rotary direction of polishing blocks (12) of the subsequent polishing members (9) will always be the same which means that it is not possible to efficiently deburr holes, edges and roundings. The structure of the gearing arrangement is technically complex and highly vulnerable to wear.”**

b. However, the examiner respectfully disagrees with this statement. The examiner believes that the applicant is looking at each reference individually rather than looking at the combination as a whole. While, Platt does lack certain features the other reference teach these lacking features therefore the combination as a whole meet the limitations of the claims as previously discussed above therefore the examiner believes the rejection is proper and thus maintained.

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9. Applicant contends that **“As it occurs from the above Platt discloses a technology which is suitable for polishing a flat surface. Platt does not give any teaching of grinding of an item that includes edges, roundings and burrs. Accordingly, Platt discloses the possibility of a uniform a polishing of surfaces without any possibility of deburring of edges and roundings which are part of such item being treated.”**

c. However, the examiner respectfully disagrees with this statement. While, the examiner believes that the device of Platt could be used with other workpieces the examiner has included the Oya reference to further show this concept therefore since all the limitations of the claims have been met the examiner believes the rejection is proper and thus maintained.

10. Applicant contends that **“Rosa is non-analogous art and cannot render the present invention obvious because it is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which the applicant was concerned. Rosa should be removed as a reference.”**

a. However, the examiner respectfully disagrees with this statement. Platt uses a single belt and a single motor to rotate multiple grinding elements. Rosa teaches that multiple grinding elements could be rotated individually with individual motors which effectively remove an outer layer from the workpiece while reducing stress in the workpiece (Column 1, Lines 63-65). Both references deal with rotating grinding elements therefore the examiner maintains that one of

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ordinary skill in the art could have substituted a chain for individual motors in order to effectively remove an outer layer from the workpiece while reducing stress in the workpiece.

11. Applicant contends that **“Therefore the references, even in combination, do not teach or suggest epicyclic movement of the grinding elements across an item that includes edges, roundings and burrs. The references thus do not teach or suggest each and every limitation of Claim 1.”**

b. However, the examiner respectfully disagrees with this statement. Platt shows that the grinding elements move in an epicyclic motion which can be seen in Figure 1 therefore the examiner believes the rejection is proper and thus maintained.

12. Applicant contends that **“In contrast, Rosa teaches an apparatus for removing Chromium plating from a roller with a metallic shell galvanically covered by a copper layer having a pattern and a protective chromium plating and polishing the roller. The method includes hitting the chromium plating with blunt bodies to break and remove the chromium plating by elastic collapsing of the underlying copper layer. The copper is then smoothed and polished by rotating polishing members that move back and forth as the roller rotates. (Abstract, Figures) When a polishing member hits a spot with stronger**

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resistance, ammeters detect the increased current draw and cause the member to be moved upwards from the surface (Col. 5, line 63 - Col. 6, line 43)."

a. However, the examiner respectfully disagrees with this statement. The applicant is not considering what the references teach. The fact that Rosa uses a different workpiece is moot because the reference taught of rotating grinding elements with individual motors compared to a single drive mechanism that rotates the grinding elements simultaneously, as taught by Platt, the combination provides individual motor that individually rotate respective grinding elements, which meet the limitations of the claims. The examiner also notes that impermissible hindsight has not been used because sufficient motivation has been established as previously mentioned above therefore the examiner believes the rejection is proper and thus maintained.

13. Applicant contends that **"MPEP §2141.02 teaches "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." (Emphasis in original) Platt is for the polishing of sheet glass. The addition of individual motors for each polishing block would have no apparent benefit while causing much greater complexity and expense. Since Applicant challenged the Examiner's suggestion that the chain 22 of Platt cannot be "modified" with grinding motors that individually drive each grinding head, the Examiner is relying on Heuze as teaching this feature. However, as previously pointed out, if the grinding motors are to be added to Platt's polishing**

blocks and the chain 22 is to be removed, that would prevent the polishing blocks from rotating around a central point as taught by Platt and would also make the entire elaborate gear structure (Figs. 3 & 4) nonfunctional.”

d. However, the examiner respectfully disagrees with this statement. First, the examiner is not relying on Heuze for teaching that the chain (22), of Platt, be modified with grinding motors that individually drive each grinding head. Instead, Heuze taught that the chain (22), of Platt, could be driven by a motor, since Platt did not specifically disclose how the chain (22) was driven. Second, the examiner believes that by using individual motors rather than a single drive chain one would also be reducing the parts needed to operate the device (i.e. elaborate gears) thereby also reducing cost and assembling time while still allowing one to individually maintain constant pressure at different locations thereby removing material from the surface of the workpiece without causing undesired stress therefore the examiner believes the rejection is proper and thus maintained.

14. Applicant contends that **“The proposed modification of Platt with Rosa and Heuze will render the Platt apparatus inoperable for its intended purpose and therefore cannot be arrived at making the present invention non-obvious over the combined teachings of Platt and Rosa (see below).”**

e. However, the examiner respectfully disagrees with this statement. The examiner maintains that the combination would not render the apparatus, of Platt, inoperable because the combination allows a user to rotate grinding

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members individually instead of rotating grinding members at the same time. This allows a user to select which grinding members need to be rotated therefore the examiner believes the rejection is proper and thus maintained.

15. Applicant contends that **“Rosa has nothing to do with endless conveying, Rosa has fixed conveyors 175, 176. Rosa requires that the support 81 housing the guide 83, motor 82, and disk 4 be connected to the wheels 91 sliding on tracks 92 in central structure 50 for supporting each operating head 1 and driving each when the chain 53 is driven. Rosa provides guide 83 to vertically shift motor 82 along axis 84 of support 81 when the oscillation assembly 8 acts thereon**

f. However, the examiner respectfully disagrees with this statement. Rosa does not need to have anything to do with endless conveying in order to be applied as a teaching reference for the motors of the grinding members. Again, the examiner believes that the applicant is looking at each reference in light of the entire claim instead of understanding what specific teaching that particular reference has been used for in combination with Platt. Thus, the examiner maintains that the rejection is proper and thus maintained.

16. Applicant contends that **“Understandably, the Examiner uses hindsight reconstruction to justify an obviousness holding. However, that is against the norms set by the Courts for any 35 U.S.C. 103 inquiry. "It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together flae**

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teachings of the prior art so that the claimed invention is rendered obvious." In re Fritch, 23 USPQ2d 1783, 1784 (Fed. Cir. 1992), quoting from In re Gorman, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). "This court has previously stated that one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." Id. quoting from In re Fine, 5 USPQ2d 1600 (Fed. Cir. 1988)."

g. However, the examiner respectfully disagrees with this statement. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this situation, the examiner has provided sufficient motivation for each combination as previously discussed above thus the examiner maintains that hindsight reasoning has not been used therefore the rejection is deemed proper and thus maintained .

17. Applicant contends that **"Claim 5 as amended depends from and shares the patentable limitations of Claim 1 and adds that first and second rows of the grinding elements are arranged to move in directions perpendicular to the**

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direction of motion of an object on the underlying conveyor, one or more grinding elements rotate in a different direction than one or more other grinding elements, and the second row of grinding elements rotate in a direction opposite to the fast row of grinding elements. No references, taken alone or in combination, teach or suggest this limitation. Likewise, claims 14 and 19 adds patentable limitations to claims 6 and 17, respectively.”

h. However, the examiner respectfully disagrees with this statement. It is clear from figure 3, of Knost, and from figure 2, of Price, that the grinding elements or rows of grinding elements can be rotated in opposite direction from one another therefore the examiner believes the rejection is proper and thus maintained.

18. Applicant contends that **“Moreover, Knost is arranged to establish a finishing of a surface in order to establish a slab thickness which is uniform in relation to the underside of slab. Reference of this technical effect is found in column 1, lines 42-54. Even if Knost may have grinding heads rotating in different directions (occurs from fig. 3), yet, Knost has only one row of these elements and does not disclose an endless conveying means with an annular course and does not disclose an epicyclic movement of the grinding elemems.”**

i. However, the examiner respectfully disagrees with this statement. Knost does not have to be concerned with endless conveyer limitations because this reference was not used as the base reference. Platt already disclosed this

limitation. Knost merely taught of rotating grinding elements in opposite directions. Platt also uses rotating grinding elements therefore one could take the teachings, of knost, and make the grinding elements, of Platt, rotate in opposite directions. Finally, the age of a reference (i.e. an older reference) does not prevent a combination from being mad as long as there is some sort of motivation for the combination therefore the examiner believes the rejection is proper and thus maintained.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Applicant further added the specific type of workpiece being used. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT SCRUGGS whose telephone number is (571)272-8682. The examiner can normally be reached on Monday-Friday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROBERT SCRUGGS/
Examiner, Art Unit 3723